The Sciences within the United Nations System

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The San Francisco Conference adopted the Charter of the United Nations in 26 June 1945. While science was not explicitly mentioned in the Charter, the vast programme of international action in the economic, social, cultural and humanitarian fields (Articles 13 and 57 of the Charter) encompassed nearly the entire field of human activity, thus including science and its applications.

The implementation of the programme was entrusted to the main bodies of the United Nations, notably the Economic and Social Council (ECOSOC), and to the different specialized agencies. The Secretariat was responsible for conducting studies and certain operations.

The nuclear attacks on Hiroshima and Nagasaki occurred after the San Francisco Conference but before the London Conference (November 1945) that established UNESCO. Hiroshima had made governments more aware of the social and political implications of science. One consequence would be the reference to science in the title "UNESCO". UNESCO and ECOSOC would therefore have joint competence in that domain.

The sharing of competencies was complicated by differing cultural approaches to science. The French traditionally viewed science as an intellectual activity (pure science) separate from its applications, which were more closely tied to the economic sphere. The Anglo-Saxon tradition took the opposite view. Thus, for example, Joseph Needham considered that UNESCO should deal with science as a whole, even if it meant overlapping with the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) and limiting ECOSOC to what could be termed as a general orientation role. In contrast, Henri Laugier, in line with his responsibilities as Deputy Secretary-General of the United Nations in charge of ECOSOC, wished to give ECOSOC an active role in scientific development, while confining UNESCO to basic science.

The United Nations had a more explicitly political role since it was composed of career diplomats appointed by their governments. The United Nations was the first choice of the USSR, which refused to join UNESCO on the grounds that the United Nations and its bodies (Security Council where it had a veto, and the Economic and Social Council) were sufficient. From ECOSOC's point of view, UNESCO was above all a bridge to the scientific communities and NGOs.

The early initiatives

The first three initiatives taken by the United Nations in the field of science illustrate the initial division of responsibilities: the United Nations Atomic Energy Commission (UNAEC), the United Nations Scientific Conference on Conservation and Utilization of Resources (UNSCCUR) and the international scientific laboratories dossier. It would take more than ten years to create a structure, the Scientific Advisory Committee (SAC) reporting directly to the Secretary-General, that was responsible for harmonizing the United Nations' efforts in the field of science. More ambitious in scope, the United Nations Office for Science and Technology (OST) was established at the end of the 1960s.

In January 1946, the United Nations General Assembly decided to create the United Nations Atomic Energy Commission, entrusting direct responsibility for it to the Security Council. The entire field of nuclear energy and its applications was therefore removed for several years from the scope of UNESCO and ECOSOC. The aim of the Atomic Energy Commission was to seek ways of controlling existing nuclear weapons and preventing the further development of such weapons. Confronted with contradictory proposals with regard to arms control, the Commission found itself at an impasse after several months. The Soviet nuclear explosion of 1949 made the Commission obsolete, and the cold war prevented new negotiations for many years. The Commission was formally dissolved in 1952 by the United Nations General Assembly.

In May 1946, on behalf of ECOSOC, Laugier proposed the creation of an international body to coordinate research and the development of international scientific laboratories. The matter would be handled by the studies and research division of the Department of Social Affairs. This decision led to several months of debate between UNESCO and ECOSOC with regard to their mutual competencies.[1] In 1950 ECOSOC entrusted the entire dossier to UNESCO.

The United Nations Scientific Conference on Conservation and Utilization of Resources, inspired by an idea of Franklin Delano Roosevelt, had been officially proposed by the United States of America in September 1946 at a meeting of ECOSOC, even before UNESCO was created. The difficulties in obtaining raw materials during the war had revealed the crucial nature of those problems. Post-war reconstruction and development encountered the same difficulties.

The economic affairs department of ECOSOC was mandated to organize the conference. After consultation with governments and exclusion of nuclear issues from the scope of the conference, the project was definitively adopted by ECOSOC in March 1947. The conference was held in August 1949. The United States had insisted that the conference should be very technical in nature: a meeting of experts that would be devoted "solely"[2] to an exchange of findings and information in those fields and the determination of the economic costs and benefits of the different technical possibilities, but without going so far as to make recommendations to governments.

The Food and Agricultural Organization (FAO) was the principal agency concerned and participated actively in the conference. UNESCO was more reluctant because it approached the problems rather differently: Julian Huxley favoured an approach emphasizing the protection of nature. The 2nd session of the General Conference held in Mexico City in November 1947, therefore made a twofold decision: to participate directly in the UNSCCUR conference; and to organize regional conferences for the protection of nature, sponsored by UNESCO, including one at Fontainebleau (September 1948) which would give rise to the International Union for the Protection of Nature (IUPN), and to convene a technical meeting for the purposes of synthesis, to be held at the same time as the UNSCCUR, while emphasizing the cultural and scientific dimensions and social implications rather than the economic dimension underlined by ECOSOC.

Subsequent conferences

[1] See the contribution on the international laboratories in this volume.
[2] The term "solely" appears in Resolution 32(IV) of ECOSOC of 28 March 1947, as does a refusal to draw up "international agreements" and to "lay down political principles".

With the era of détente, nuclear scientific cooperation was back on the international agenda (the "Atoms for Peace" speech by President Eisenhower to the General Assembly of the United Nations in 1953). A plan for creating a special agency for the peaceful applications of nuclear power took shape in 1955. Early in 1956, the USSR, Czechoslovakia, India and Brazil joined with the western countries to form a preparatory committee. Chaired by Homi Bhabha, the first United Nations Conference on the Peaceful Uses of Atomic Energy was held in Geneva in August 1955. More than 1,500 delegates participated in the conference, which represented the first international scientific and technical exchanges in the field in more than 15 years. Those exchanges confirmed that scientists from the two blocs had independently arrived at the same level of knowledge.

The International Atomic Energy Agency (IAEA) was formally established on 29 July 1957, following the ratification by 26 States of the convention creating it. The Agency was initially devoted solely to peaceful uses of nuclear energy.

The development of Technical Assistance at the beginning of the 1950s (President Truman's Point Four plan) ensured at the same time the United Nations' role in the definition of scientific policy and the primacy of economics over science. It placed the question of the use of science and technology for development on the United Nations agenda, which became the second major area (together with nuclear energy) of direct intervention by the United Nations in scientific fields.

This led directly to the convening of the first United Nations Conference on the Application of Science and Technology in Developing Countries (UNCAST),[3] which was held in Geneva in February 1963, in the early days of decolonization. The conference was organized by the Scientific Advisory Committee (SAC), whose Secretary-General was the Brazilian biochemist Carlos Chagas, who had been chairperson since 1956 of the United Nations Scientific Committee on the Effects of Atomic Radiation. UNESCO actively participated in the preparations for the conference and in the conference itself. One of the intellectual bases of the conference was the report on "Current Trends in Scientific Research" prepared for UNESCO by Pierre Auger, former Director of the Natural Sciences Department.

It was a conference involving 1,665 participants, 96 governments, 1,839 communications and 250 documentary films ... but with only 16% of participants from the developing countries. Like UNSCCUR, UNCAST was not supposed to make recommendations or take decisions but rather to assess and summarize knowledge. The conference nevertheless called for the establishment of national research and technology systems and, simultaneously, of planning for scientific development. Robert Oppenheimer, one of the participants, called the conference a pointless exercise while Carlos Chagas considered that it had successfully launched several initiatives. Assessments of the conference were therefore mixed.[4]

One outcome of the conference was the establishment of the Advisory Committee for the Application of Science and Technology (ACAST), which gave the United Nations greater responsibility for international scientific cooperation through coordination of the various agencies. In the division of labour, UNESCO was given the task of developing national science and technology policies and of organizing regional conferences in that field.

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[3] This paragraph is based on a working document by Dr K.-H. Standke "The interaction between the United Nations and UNESCO in the field of science and technology. An account".

[4] See Carlos Chagas Filho "*Um Aprendiz de Ciencia*" (A science apprentice), Editora Nova Fronteira e Editora Fiocruz, Rio de Janeiro, 2000.

The Advisory Committee was asked to draw up a “programme of international cooperation in science and technology in which the developed and developing countries could join in a drive on problems of importance for the developing countries”. The programme was published in 1971.

The major scientific conferences initiated by the United Nations became widespread beginning in the 1970s.